Dyscalculia: A Behavioural Vision

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Abstract. *Learning Disabilities* (*LD*) constitute a diverse group of disorders in which children who generally possess at least average intelligence have problems processing information or generating output, i.e., *LD* may be interpreted as a neurologically-based processing problem. The causes and treatment of *LD*, namely reading disorders has been the subject of considerable thought and study. Being one among others, this is the reason why this work will focus on dyscalculia and in its different manifestations and how they may interfere with the children natural development. It will be assessed it in terms of a measurement of the child's entropy, a thermodynamic quantity representing the unavailability of a child brain energy for conversion into mental work, and seen as the degree of disorder or randomness in the brain, i.e., lack of order or predictability; gradual decline into disorder; an arena where entropy reigns supreme. In one's work it reigns in a specific interval, i.e., one may have two scenarios, namely the worst and the best one. The formal background will be grounded in the use of *Logic Programming* to set the architecture of a *Function Machine* to assess *LD* and built on base of a *Deep Learning* approach to *Knowledge Representation and Reasoning*.

Keywords: Learning Disabilities · Entropy · Logic Programming
Knowledge Representation and Reasoning · Deep Learning · Function Machine

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